PROJECT TITLE	:	CIGARETTE DEVELOPMENT 1
PERIOD COVERED	:	OCTOBER 27, 1981 - JANUARY 12, 1982
WRITTEN BY	:	Singer-Z.

427 KURT

Objective

To reduce the smoke delivery of BOND LTN (BSD).
DPM : 9.0 mg/cig.
SN : 0.9 mg/cig.
CO : 9.0 mg/cig.
FORMAT : 7.25 / 20 / 78 mm

Summary

The reduction of the DPM level from the current 11.5 mg down to 9 mg could be achieved :
- by using filtering materials of higher retention capacity
- by increasing the dilution
- by tobacco blend modifications
- by a combination of the above

A cigarette paper of higher porosity than the existing Wattens 60 (53 $ml/cm^2/min$) could have a somewhat negative influence on the quality of the first puffs.

Description of samples and results

1.1 In order to achieve the objective, the first trial was performed by increasing the dilution.
By replacing the existing FU-POV 40 L by the more porous FU-POV 150, the dilution level was brought up from 32 % to 47 % followed by a reduction in the smoke figures. In this case, the other tobacco and non-tobacco materials remained unchanged, i.e. they were the same as those of the BSD. Prototype No 4 P was retained as being in general a good quality cigarette.

1.2 Later on, other cigarette papers were tested on prototype No 4 with the intention of improving the organoleptic characteristics of the product. For a description of the cigarette papers used, see the table on the next page. The standard cigarette paper Wattens 60 is also given for comparison.

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Source: https://www.industrydocuments.ucsf.edu/docs/ngxk0000

Cigarette paper designation	Porosity ml/cm^2/min	Burning rate sec/15 cm	Additive type	Additive content %	Fiber type
Wattens 60	53	53	Citrate Phosphate	2.4 0.3	Cellulose
IVY MC HP 5 M	44	56.7			
IVY MC HP 8 M	66	62.6			
Wattens 70 Cl	65	56	Citrate Phosphte	2.4 0.6	Cellulose
Mauduit 110-6	41	45	Citrate	1.2	Flax/hemp

Only prototype No 5 using Fletcher IVY MC HP 5 M cigarette paper was in the BOND taste direction. However, it was found to be softer, milder and too delicate for the Swedish market.

1.3 Still on the basis of prototype No 4 P, trials were carried out with different filter tows :
- 2.5 Y / 40'000 white tow having the same efficiency and RTD as the standard 3.4 I / 46'000 while being about 10 % cheaper (due to the 15 % weight saving).
- 2.5 Y / 48'000 white tow being more efficient and having a higher RTD than the standard one.

No positive results were achieved as far as the taste qualities were concerned.

2. The new tobacco blend No SW0242701N02 containing 16 % of ET was incorporated in the standard BSD cigarette construction. The smoke figures were within the objectives. Prototype 11 P was very well accepted by the expert Panel A.

Follow-up

Before being presented to the Swedish Marketing Department, prototypes Nos 4 and 11 will be reproduced in order to confirm the smoke figures. A description of the two prototypes is given in the table on the next page.

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Source: https://www.industrydocuments.ucsf.edu/docs/ngxk0000

PROJECT NAME : K U R T PROJECT NO : 427 PROJECT LEADER : ZDS DATE : 01.1.1982

PROTOTYPE NO		4 P	11 P	BSD
BLEND NO		054-427BS004	SW0242701N02	054-427BS004
TA	%	2.36	2.12	2.38
NITRATE-NITROGEN	%	0.19	0.30	0.17
REDUCING SUGARS	%	8.9	8.9	9.5
FORMAT : DIAMETER	mm	7.28	7.28	7.29
FILTER LENGTH	mm	20	20	20
CIGARETTE LENGTH	mm	77	78	78
TOTAL WEIGHT	mg/cig.	830	799	828
TOBACCO WEIGHT AT 12 % O.V.	mm	615	574	620
CIGARETTE RTD	mm WG	100	126	122
DILUTION	%	47	39	32
CIGARETTE PAPER		WP 60	WP 60	WP 60
TIPPING PAPER		Z4/120	Z4/120	Z4/120
FILTER : TYPE		Single	Single	Single
TOW		3.4 I / 46'000	3.4 I / 46'000	3.4 I / 46'000
PAPER		FU-POV 150	FU-POV 40	FU-POV 40
RTD	mm	89	99	91
DPM	mg/cig.	8.9	8.7	11.5
SN	mg/cig.	0.81	0.73	1.1
CO	mg/cig.	8.2	8.7	11.1
NO	mg/cig.	0.13	0.15	0.15
PUFF COUNT		8.5	8.2	8.1

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

1000142900

Source: https://www.industrydocuments.ucsf.edu/docs/ngxk0000

426 INGE

Objective

To develop a MARLBORO DB line extension in the ultra low tar sector.
K : not determined
N : 0.4 mg/cig.
CO : less than or equal to 0.7 mg/cig.
NO : less than or equal to 0.12 mg/cig.
FORMAT : 7.95 / 21 / 84 mm
7.95 / 25 / 84 mm

Summary

The objective described corresponds to that of the project BUBBLE ULTRA (see monthly report "Cigarette Development 3" of June-September, 1981, December-January, 1981-1982), except for the filter length which should be, if possible, 21 mm.

Description of samples and results

The selected BUBBLE ULTRA prototypes Nos 5, 9, 11 and 12 P were sent to PMG Munich to be analysed by using the DIN method giving the K and N values. At the same time, the cigarettes were eva luated by the local smoking Panel B and submitted to the German Marketing Department who requested versions 9 and 11 fitted with a 21-mm filter plug. This alteration necessitated a complete re-engineering of the cigarette construction.

It should be noted that the FTR machinery is not equipped for making king size cigarettes with a 21-mm filter, therefore the development work should be based on a 20-mm filter length only.

By using the Filter Type and Dilution Prediction Program, two constructions, differing from each other in the filter tow used, were suggested.

The trials were run by utilizing the tobacco blend No PM0242201N02 from project BUBBLE ULTRA.

The two prototypes (Nos 1 and 2) were within the analytical objectives. However, as far as their organoleptic characteris- tics are concerned, both cigarette prototypes were of lower quality than the BUBBLE ULTRA prototypes; the typical MARLBORO characteristics (especially body) were missing.

Comments

If the filter length has to stay at 21 mm, the cigarette construction should be modified and if necessary some blend adjustments should be made in order to reduce the puff count.

1000143901

Source: https://www.industrydocuments.ucsf.edu/docs/ngxk0000

PROJECT NAME : I N G E PROJECT NO : 426 PROJECT LEADER : Z D S DATE : 01.18.1982

PROTOTYPE NO		1 P	2 P	9 P	11 C
BLEND NO		PM0242201N02	PM0242201N02	PM0242201N02	PM0242201N02
TA	%	1.71	1.70	1.76	1.63
NITRATE-NITROGEN	%	0.20	0.20	0.21	0.20
REDUCING SUGARS	%	9.3	8.5	9.3	8.2
FORMAT : DIAMETER	mm	7.92	7.92	7.95	7.95
FILTER LENGTH	mm	20	20	25	25
CIGARETTE LENGTH	mm	84	84	84	84
TOTAL WEIGHT	mg/cig.	930	938	858	920
TOBACCO WEIGHT AT 12 % O.V.	mm	691	697	608	624
CIGARETTE RTD	mm WG	96	95	81	87
DILUTION	%	62	64	51	63
CIGARETTE PAPER		Ecusta 753	Ecusta 753	Ecusta 753	Ecusta 753
TIPPING PAPER		4 x M. 0.3 . 3.5	4 x M. 0.3 . 3.5	4 x M. 0.3 . 3.5	4 x M. 0.3 . 3.5
FILTER : TYPE		Single	Single	Single	Single
TOW		2.5 Y / 48'000	3.3 Y / 55'000	2.5 Y / 40'000	3.3 Y / 55'000
PAPER		FU-POV 100	FU-POV 100	FU-POV 150	FU-POV 100
RTD	mm	86	83	82	105
TAR (K)	mg/cig.	5.2 (4.8)	4.6 (4.3)	5.6 (5.2)	3.7 (3.4)
SN (N)	mg/cig.	0.43 (0.38)	0.40 (0.35)	0.42 (0.37)	0.21 (0.18)
CO	mg/cig.	4.6	4.2	5.4	3.9
NO	mg/cig.	0.10	0.09	0.10	0.08
PUFF COUNT		9.6	9.4	7.2	8.3

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

1000143902

Source: https://www.industrydocuments.ucsf.edu/docs/ngxk0000

425 CATHERINE

Objective

To develop a MARLBORO 100'S for Germany having, if possible, the same K / N deliveries as the king size version, i.e. :
K : 13 mg/cig.
N : 0.8 mg/cig.

Description of samples and results

The tobacco blend ML 027 of the diluted MARLBORO DB (MLK 12) was incorporated in the standard MLH 04 cigarette construction. The tobacco weight was calculated using the same filler density as that of the MLK 12.
For a description of the cigarette, see the table on the next page. The prototype was very well accepted by the expert Panel A. However, if the smoke figures cannot be improved a new tobacco blend should be used.

0001143903

Source: https://www.industrydocuments.ucsf.edu/docs/ngxk0000

PROJECT NAME : C A T H E R I N E PROJECT NO : 425 PROJECT LEADER : Z D S DATE : 01.18.1982

PROTOTYPE NO		2 P
BLEND NO		ML 027
TA	%	1.58
NITRATE-NITROGEN	%	0.13
REDUCING SUGARS	%	10.9
FORMAT : DIAMETER	mm	7.79
FILTER LENGTH	mm	25
CIGARETTE LENGTH	mm	99
TOTAL WEIGHT	mg/cig.	1220
TOBACCO WEIGHT AT 12 % O.V.	mm	914
CIGARETTE RTD	mm WG	93
DILUTION	%	27
CIGARETTE PAPER		Wattens 60
TIPPING PAPER		Z4/80
FILTER : TYPE		Single
TOW		5.0 I / 46'000
PAPER		FU-POV 40
RTD	mm	61
TAR (K)	mg/cig.	15.4 (13,8)
SN (N)	mg/cig.	1.04 (0.91)
CO	mg/cig.	16.6
NO	mg/cig.	0.18
PUFF COUNT		11.6

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS.

1000143904

Source: https://www.industrydocuments.ucsf.edu/docs/ngxk0000

407 VIEJO

Objective

To develop a BELMONT line extension with :
DPM : 4 mg/cig.
SN : 0.4 mg/cig.
FORMAT : 7.95 / 20 / 79.4 mm

Summary

Discussions are still continuing as to which tobacco blend the development should be based on.
The use of the blend containing expanded tobacco, such as PHILIP MORRIS SUPER LIGHTS PMS (25 % of ET), seemed to be the easiest way to achieve the above objective.
However, due to the problems, which were recently solved, of exporting expanded tobacco to Finland (excise duty, transport cost) the ET could not be taken into consideration.

Description of samples and results

1. The results of the preliminary study made on the computer by using the Smoke Yield, Filter Type and Dilution Prediction Program showed that the target figures could be obtained, even with the BELMONT EXTRA MILD BEO tobacco blend (0 % of ET), while still keeping a reasonable puff count.

2. Using the PMS blend No FR0240501N02 prototypes of different cigarette constructions were produced. Two of them Nos 2 and 5 came within the objectives. A description is given in the table on the next page.

Follow-up

The new tobacco blend formula containing 18 % of ET is expected soon.

B. Ringn

01.18.1982/ZDS/cap

0001143905

Source: https://www.industrydocuments.ucsf.edu/docs/ngxk0000

PROJECT NAME : V I E J O PROJECT NO : 407 PROJECT LEADER : Z D S DATE : 01.18.1982

PROTOTYPE NO		2 P	5 P	PMS *
BLEND NO		FR0240701N02	FR0240701N02	
TA	%	1.68	1.72	1.87
NITRATE-NITROGEN	%	0.21	0.23	0.22
REDUCING SUGARS	%	10.2	10.2	7.9
FORMAT : DIAMETER	mm	7.93	7.96	7.93
FILTER LENGTH	mm	20	20	25
CIGARETTE LENGTH	mm	79	79	84
TOTAL WEIGHT	mg/cig.	865	862	921
TOBACCO WEIGHT AT 12 % O.V.	mm	638	633	642
CIGARETTE RTD	mm WG	79	76	99
DILUTION	%	64	67	60
CIGARETTE PAPER		110-6	110-6	Ecusta 708
TIPPING PAPER		4 M. 0.3 . 3.5	3 x 0.2 x 0.3	6 M. 0.15 . 4.5
FILTER : TYPE		Single	Single	Single
TOW		2.5 Y / 51'000	2.5 Y / 51'000	2.5 Y / 48'000
PAPER		FU-POV 100	FU-POV 100	FU-POV 100
RTD	mm	86	84	106
DPM	mg/cig.	4.6	4.3	4.6
SN	mg/cig.	0.42	0.40	0.39
CO	mg/cig.	4.0	3.2	5.5
NO	mg/cig.	0.07	0,06	0.10
PUFF COUNT		9.0	9.1	8.0

THE CIGARETTES ARE SMOKED ON A PM 20 PORTS. * : C.I.R. 6-7, 1981

1000143906

Source: https://www.industrydocuments.ucsf.edu/docs/ngxk0000